

1 **CLAIMS**

2 What is claimed is:

3 1. A heavy duty injection molded utility enclosure
4 comprising:

5 a symmetrical floor assembly for enclosing the bottom of
6 said heavy duty enclosure;

7 four L-shaped corner pillars for providing strength and
8 rigidity to said enclosure;

9 a pair of side wall assemblies for enclosing the left
10 side and right side of said heavy duty enclosure;

11 a rear wall assembly for enclosing the back of said
12 heavy duty enclosure;

13 a door assembly for enclosing and providing ingress into
14 and egress from said heavy duty enclosure;

15 a roof assembly for enclosing the top of said heavy duty
16 enclosure system;

17 wherein a heavy duty enclosure can be shipped in a
18 disassembled state and assembled on a desired site.

19
20 2. The heavy duty enclosure of claim 1 wherein said
21 symmetrical floor assembly includes;

22 two pair of like-configured floor panel members for
23 constructing said floor assembly, each of said floor members
24 including, a top surface including a means of attaching said

1 floor assembly to said wall and said door assemblies, a
2 bottom surface constructed and arranged to provide rigidity
3 and stability to said floor assembly, a first locking edge
4 constructed and arranged with a means to connect like-
5 configured locking edges of said like-configured floor panels
6 into said floor assembly, a second locking edge constructed
7 and arranged with a means to connect like-configured locking
8 edges of said like-configured floor panels into said floor
9 assembly, a ramp edge for easy loading and unloading of said
10 heavy duty enclosure, a closed edge for maintaining a weather
11 resistant enclosure.

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13 3. The heavy duty enclosure of claim 2 wherein said
14 means to connect like-configured locking edges includes a
15 series of spaced apart fingers and recesses along said first
16 and said second locking edges of each said floor panel, each
17 of said fingers being provided with at least one countersunk
18 aperture for receiving a fastener, said fingers and recesses
19 constructed and arranged so that said fingers overlap and
20 mateably engage said recesses and said fasteners secure said
21 floor panel members together in an inter-fitting engagement
22 with their respective top surfaces in a co-planar
23 arrangement.

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1 4. The heavy duty enclosure of claim 2 wherein said
2 floor panel members include a plurality of spaced apart tubes
3 extending through each said floor panel under said top
4 surface and above said bottom surface and extending between
5 said first locking edge and said ramp edge, said tubes being
6 constructed and arranged for adding increased weight capacity
7 and stability to said enclosure.

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9 5. The heavy duty enclosure of claim 2 wherein said
10 means of attaching said side wall assemblies and said corner
11 pillars to said floor assembly top surface includes a
12 plurality of locking bosses arranged in a linear fashion
13 adjacent to said closed edge and said ramp edge, said bosses
14 extending upwardly from said top surface, said locking bosses
15 constructed and arranged to cooperate with said corner
16 pillars and said wall assemblies;

17 wherein said corner pillars and said side wall
18 assemblies are secured to said floor panels via said locking
19 bosses.

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21 6. The heavy duty enclosure of claim 2 wherein said
22 means of attaching said door assembly to said floor assembly
23 top surface includes at least one hinge pin arranged adjacent
24 to said locking posts and said ramp edge, said hinge pin

1 constructed and arranged to cooperate with said door
2 assembly;

3 wherein said door assembly is allowed to open and close
4 in a pivotal fashion.

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6 7. The heavy duty enclosure of claim 2 wherein said
7 means of attaching said rear wall assembly to said floor
8 assembly top surface includes at least one hinge pin arranged
9 adjacent to said locking posts and said ramp edge, said hinge
10 pin constructed and arranged to cooperate with said door
11 assembly and at least one double boss connector having a
12 first boss end and a second boss end, said first end
13 constructed and arranged for insertion into a socket located
14 adjacent to said ramp edge of said floor assembly, said
15 second boss end extending upwardly from said top surface of
16 said floor assembly and constructed and arranged to cooperate
17 with said rear wall panel sockets;

18 wherein said rear wall assemblies are secured to said
19 floor panels via said locking bosses.

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21 8. The heavy duty enclosure of claim 2 wherein said
22 bottom surface includes integrally formed cross-bracing;

23 wherein said cross-bracing provides increased weight
24 capacity and stability to said enclosure.

1 9. The heavy duty enclosure of claim 1 wherein said side
2 wall assemblies includes at least four like-constructed side
3 wall panel members for constructing a right side wall
4 assembly and a left side wall assembly for said heavy duty
5 enclosure system;

6 wherein said left side wall assembly includes two of
7 said side wall panels and said right side wall assembly
8 includes two of said side wall panels.

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10 10. The heavy duty enclosure of claim 9 wherein said
11 wall panel members include a first longitudinal end having an
12 attachment means constructed and arranged to cooperate with a
13 floor assembly or a roof assembly, a second longitudinal end
14 having an attachment means constructed and arranged to
15 cooperate with a floor assembly or a roof assembly, a first
16 horizontal edge having an attachment means constructed and
17 arranged to cooperate with a side wall panel member or a
18 corner pillar member in an interlocking co-planar
19 relationship, a second horizontal edge having an attachment
20 means constructed and arranged to cooperate with a side wall
21 panel member or a corner pillar member in an interlocking co-
22 planar relationship.

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1 11. The heavy duty enclosure of claim 10 wherein said
2 first longitudinal end attachment means includes at least one
3 integrally formed socket and said second longitudinal end
4 attachment means includes at least one integrally formed
5 socket.

6
7 12. The heavy duty enclosure of claim 10 wherein said
8 first horizontal edge attachment means includes a ridge
9 extending from about the first longitudinal end to about the
10 second longitudinal end of said edge;

11 wherein said ridge is brought into an interlocking
12 relationship with a corresponding groove in an adjacent
13 pillar or wall panel resulting in a mechanically secure
14 connection between said panels.

15
16 13. The heavy duty enclosure of claim 10 wherein said
17 second horizontal edge attachment means includes a groove
18 extending from about the first longitudinal end to about the
19 second longitudinal end of said edge;

20 wherein said groove is brought into an interlocking
21 relationship with a corresponding ridge in an adjacent pillar
22 or wall panel resulting in a mechanically secure connection
23 between said panels.

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1 14. The heavy duty enclosure of claim 10 wherein said
2 first horizontal edge attachment means includes at least one
3 slot constructed and arranged for insertion of at least one
4 T-connector, said at least one T-connector having a first end
5 portion and a second end portion, wherein said first end
6 portion of said at least one T-connector is inserted into
7 said slot and rotated about ninety degrees to secure said at
8 least one T-connector in place, wherein said second end
9 portion of said at least one T-connector extends outwardly
10 from said first horizontal edge for securing cooperation with
11 an adjacent side wall panel;

12 wherein said second end portion of said T-connector is
13 brought into an interlocking relationship with a
14 corresponding key-hole slot in an adjacent corner pillar or
15 wall panel resulting in a mechanically secure connection
16 between said panels.

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18 15. The heavy duty enclosure of claim 10 wherein said
19 second horizontal edge attachment means includes at least one
20 key-hole slot constructed and arranged for insertion of said
21 second end portion of said at least one T-connector, wherein
22 said second end portion of said at least one T-connector is
23 inserted into said key-hole slot and slid downwardly to
24 secure said at least one T-connector in place;

1 wherein said first end portion of said T-connector is
2 secured in place in said first horizontal edge of an
3 adjacent wall panel resulting in a mechanically secure
4 connection between said panels.

5
6 16. The heavy duty enclosure of claim 1 wherein said
7 rear wall assembly includes a pair of like-constructed rear
8 wall panel members, said rear wall panel members having a
9 first longitudinal end with an integral attachment means
10 constructed and arranged to cooperate with a floor assembly
11 or a roof assembly, a second longitudinal end having an
12 attachment means constructed and arranged to cooperate with
13 said roof or said floor assemblies, a first horizontal edge
14 having an attachment means constructed and arranged to
15 cooperate with a corner pillar member, a second horizontal
16 edge constructed and arranged to cooperate with at least one
17 panel member to provide a weather resistant seal.

18
19 17. The heavy duty enclosure of claim 16 wherein said
20 first horizontal edge attachment means includes a semi-
21 circular conduit extending from about said first longitudinal
22 end to about the middle portion of said edge, said conduit
23 having a generally circular aperture for accepting a dowel

1 centrally located within said middle portion end of said
2 semi-circular conduit;

3 wherein said semi-circular conduit is brought into an
4 overlapping relationship with a corresponding semi-circular
5 conduit and a dowel pin enters said circular apertures in
6 each conduit resulting in a mechanically secure connection
7 between the two said panels.

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9 18. The heavy duty enclosure system of claim 17 wherein
10 said first horizontal edge attachment means includes a C-
11 shaped annular portion integrally formed at about said second
12 end of said first horizontal edge, a C-shaped annular portion
13 formed in said semi-circular conduit at about said middle
14 portion of said edge, and a hinge cap including an integrally
15 formed C-shaped annular portion slidably engaged into said
16 corresponding cavity located in said first end of said door
17 panel;

18 whereby said rear wall panels are attached to said
19 interconnected floor panels, said corner pillars, and said
20 roof panels by sliding said panel horizontally into place
21 over said respective hinge pins and engaging a hinge clip
22 adapted to close said each respective C-shaped annular
23 portions to secure said panels to said hinge pins.

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1 19. The heavy duty enclosure of claim 1 wherein said
2 roof assembly includes at least two headers, a ridge cap
3 assembly, and two pair of like-constructed roof panels.
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5 20. The heavy duty enclosure of claim 19 wherein said
6 roof assembly includes at least one support beam, wherein
7 said at least one support beam provides increased structural
8 load bearing capacity to said roof assembly.
9

10 21. The heavy duty enclosure of claim 20 wherein said
11 support beam is constructed of steel.
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13 22. The heavy duty enclosure of claim 20 wherein said
14 support beam is constructed of plastic.
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16 23. The heavy duty enclosure of claim 20 wherein said
17 support beam is constructed of a composite material.
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19 24. The heavy duty enclosure of claim 19 wherein said
20 at least two headers include an outer surface, an inner
21 surface, an upper surface, and a lower surface, wherein said
22 upper surface includes a plurality of vents constructed and
23 arranged to allow airflow through the enclosure while
24 preventing weather related moisture from entering said

1 enclosure, wherein said lower surface includes a plurality of
2 outwardly extending bosses constructed and arranged to
3 cooperate with sockets located in said second end of said
4 corner pillars, wherein said bosses are slid into the
5 respective corner pillar sockets until the integrally formed
6 spring tabs engage corresponding apertures formed in the
7 corner pillar sockets, wherein said inner surface is
8 constructed and arranged to cooperate with said at least one
9 support beam.

10

11 25. The heavy duty enclosure of claim 19 wherein said
12 inner surface of said at least two headers is constructed and
13 arranged to cooperate with up to six support beams.

14

15 26. The heavy duty enclosure of claim 19 wherein said
16 ridge cap assembly includes two like constructed portions
17 each including an outer surface, a inner surface, a first
18 locking end, and a second closed end, and a first and second
19 edge, wherein said first locking end is constructed and
20 arranged to cooperate with like constructed ridge caps for
21 interfitting engagement, wherein said second closed end is
22 constructed and arranged to resist weather infiltration,
23 wherein said first and second edges include an attachment

1 means constructed and arranged to cooperate with said roof
2 panels for weather resistant engagement.

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4 27. The heavy duty enclosure of claim 26 wherein said
5 ridge cap assembly includes a weatherstrip, said weatherstrip
6 constructed and arranged to cooperate with said cooperating
7 first ends of said like constructed ridge caps to provide a
8 weather resistant seal therebetween.

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10 28. The heavy duty enclosure of claim 26 wherein said
11 inner surface of said ridge cap portions are constructed and
12 arranged to cooperate with said at least one support beam to
13 provide increased structural integrity to said enclosure.

14

15 29. The heavy duty enclosure of claim 28 wherein said
16 ridge cap assembly includes at least one anti-lift strap for
17 securing said ridge cap portions to said at least one support
18 beams.

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20 30. The heavy duty enclosure of claim 19 wherein said
21 like-constructed roof panels include an outer surface, an
22 inner surface, a first locking edge, a second locking edge, a
23 first closed edge opposite said first locking edge, and a
24 second closed edge opposite said second locking edge wherein

1 said first locking edge is constructed and arranged to
2 cooperate with said first or said second edge of said ridge
3 cap for weather resistant engagement, wherein said second
4 locking edge is constructed and arranged to cooperate with a
5 second locking edge of an adjacent roof panel for weather
6 resistant engagement, wherein said inner surface is
7 constructed and arranged with a means of attaching said roof
8 panels to said wall panels.

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10 31. The heavy duty enclosure of claim 30 wherein said
11 means of attaching said roof panels to said wall panels
12 includes a plurality of sockets arranged in a linear fashion
13 adjacent to said first closed edge, wherein each said socket
14 is constructed and arranged to cooperate with a connector for
15 attachment to said sockets in said wall panel assemblies.

16

17 32. The heavy duty enclosure of claim 19 wherein said
18 roof panels include a plurality of spaced apart structural
19 tubes extending through each roof panel between said outer
20 surface and said inner surface extending between said first
21 locking edge and said first closed edge.

22

23 33. The heavy duty enclosure system of claim 32 wherein
24 at least one of said tubes is constructed and arranged as a

1 socket within said first locking edge to for receiving at
2 least one locking boss for attaching said like-configured
3 roof panels to said ridge cap.

4

5 34. The heavy duty enclosure system of claim 1 wherein
6 said door assembly includes a pair of like-constructed door
7 panels each having a first longitudinal end including at
8 least one integrally formed socket, said socket constructed
9 and arranged to cooperate with a hinge means, a second
10 longitudinal end including an integrally formed hinge means,
11 a first horizontal edge having a semi-circular conduit
12 extending from about said first longitudinal end to about the
13 middle portion of said edge said conduit having an integrally
14 formed hinge means, a second horizontal edge being generally
15 flat.

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17 35. The heavy duty enclosure system of claim 34 wherein
18 said hinge means includes a C-shaped annular portion for
19 accepting a hinge pin, said C-shaped annular portion
20 constructed and arranged to cooperate with a hinge clip to
21 close said annular portion and allow pivoting movement of
22 said door panels;

1 wherein said C-shaped hinge means allows said door
2 panels to be assembled to said enclosure without partial
3 disassembly of other portions of said enclosure.